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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/383,812 08/26/99 ZELMANOVICH

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EXAMINER

CORSARO, N

ART UNIT

PAPER NUMBER

2749

DATE MAILED:

06/02/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/383,812

Applicant(s)
Helena Zelmanovich

Examiner
Nick Corsaro

Group Art Unit
2749



- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

- ☒ Claim(s) 1-16 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-16 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 7, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Maloney et al. (4,728,959).

Consider claim 1, Maloney teaches a method for tracking the location of mobile units (see col. 1 lines 5-11). Maloney teaches providing a plurality of mobile units each having a wireless transmitter and a unique address (see col. 4 lines 60-64, and col. 10 lines 15-25). Maloney teaches at least one stationary base unit having a phase array antenna with antenna with antenna elements (see col. 4 lines 47-56, col. 7 lines 43-48, col. 6 lines 65-67, and col. 7 lines 1-5). Maloney teaches receiving a signal including an address from at least one mobile unit at the at least one base unit via the phase array antenna; measuring the phase difference of the signal arriving at the antenna elements of the phase array antenna from each mobile unit (see col. 6 lines 65-67, col. 7 lines 1-4, col. 7 lines 10-32, col. 7 lines 43-48, col. 4 lines 47-64, and col. 10 lines 15-25). Maloney teaches calculating the coordinates of the location of each mobile unit as a function of the phase difference (see col.5 lines 30-36).

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Consider claim 2, Maloney teaches the step of measuring the phase difference is performed in the at least one base unit (see col. 3 lines 9-12).

Consider claim 3, Maloney teaches the step of calculating the coordinates is performed in a main unit connected to the at least one base unit (see col. 5 lines 30-36).

Consider claim 5, Maloney teaches the wireless transmitter is a transceiver (see col. 1 lines 5-11).

Consider claim 7, Maloney teaches at least two base units disposed at predetermined distance from each other and wherein the step of calculating the coordinates of each mobile unit comprises measuring the azimuth of the signal from a mobile unit received at each base unit and calculating the coordinates of the location of the mobile unit as a function of the azimuths (see col. 14 lines 14-31).

Consider claim 8, Maloney teaches the step of providing at least one reference wireless transmitter disposed at a fixed location and having a unique identifying address and calibrating the accuracy of the calculation of the coordinates of the mobile units using the at least one reference transmitter (see col. 7 lines 63-69 and col. 8 lines 1-2).

Consider claim 11, Maloney teaches the at least one reference transmitter is a transceiver (see col. 1 lines 5-10, and col. 4 lines 29-40).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 9, and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney et al. (4,728,959) in view of Hilsenrath et al. (6,026,304).

Consider claim 12, Maloney teaches a method for calibrating a system for tracking the location of mobile units (see col. 1 lines 5-10, and col. 7 lines 65-68). Maloney teaches providing at least one stationary base unit having a phase array antenna having antenna elements for receiving signals from a plurality of mobile wireless transmitter units (see col. 4 lines 47-56 and col. 7 lines 1-32). Maloney teaches at least one reference wireless transmitter disposed at a fixed location and having a unique identifying address; receiving a signal including an address from the at least one reference transceiver at the at least one base unit via the phase array antenna; measuring the phase difference between the signal arriving at each antenna element from the at least one reference transmitter; calculating the coordinates of the location of the at least one reference transmitter (see col. 7 lines 63-68, col. 8 lines 1-2, col. 7 lines 10-24, and col. 5 lines 30-36). Maloney does not teach correcting future calculations by the difference between the calculated coordinates of the at least one reference transmitter and the actual location of the at least one reference transmitter. Hilsenrath teaches correcting future calculations by the difference between the calculated coordinates of the at least one reference transmitter and the actual location of the at least one reference transmitter (see col. 4 lines 24-27, col. 4 lines 43-48, col. 4 lines 48-50, col. 6 lines 6-16, col. 7 lines 8-22, col. 9 lines 53-67, col. 10 lines 1-10, and col. 10 lines 11-

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13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maloney, and correct future calculations by the difference between the calculated coordinates of the at least one reference transmitter and the actual location of the at least one reference transmitter, as taught by Hilsenrath, thus acquiring more accurate location information.

Consider claims 6 and 16, Maloney is silent on the step of calculating the coordinates comprises calculating the polar coordinates of each mobile unit, however polar coordinates or rectangular coordinates could be used depending on the shape of the area to be monitored and whether or not elevation is to be measured, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maloney, and use polar coordinates, thus allowing ease of measurement if a circular area is being monitored.

Consider claim 9, Maloney teaches the step of calibrating comprises measuring the phase difference between the signal arriving at each antenna element from the at least one reference transmitter, calculating the coordinates of the location of the at least one reference transmitter (see col. 7 lines 63-67, and col. 8 lines 1-2). Maloney does not teach correcting future calculations by the difference between the calculated coordinates of the at least one reference transmitter and the actual location of the at least one reference transmitter. Hilsenrath teaches correcting future calculations by the difference between the calculated coordinates of the at least one reference transmitter and the actual location of the at least one reference transmitter (see col. 4 lines 24-27, col. 4 lines 43-48, col. 4 lines 48-50, col. 6 lines 6-16, col. 7 lines 8-22, col. 9 lines

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53-67, col. 10 lines 1-10, and col. 10 lines 11-13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Maloney, and correct future calculations by the difference between the calculated coordinates of the at least one reference transmitter and the actual location of the at least one reference transmitter, as taught by Hilsenrath, thus acquiring more accurate location information.

Consider claim 13, Maloney teaches the step of measuring the phase difference is performed in the at least one base unit (see col. 3 lines 9-12).

Consider claim 14, Maloney teaches the step of calculating the coordinates is performed in a main unit connected to the at least one base unit (see col. 5 lines 30-36).

Consider claim 15, Maloney teaches the wireless transmitter is a transceiver (see col. 1 lines 5-11).

5. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney et al. (4,728,959) in view of Willenegger et al. (5,991,284).

Consider claims 4 and 10, Maloney does not teach that each mobile unit or reference unit has at least one sensor and the signal includes an information signal from the at least one sensor and wherein the information signal is processed by the main unit. Willenegger teaches each mobile unit or reference unit has at least one sensor and the signal includes an information signal from the at least one sensor and wherein the information signal is processed by the main unit (see col. 4 lines 1-8, and col. 4 lines 28-34, and col. 4 lines 34-36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of

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Maloney, and have each mobile unit or reference unit have at least one sensor and the signal include an information signal from the at least one sensor and wherein the information signal is processed by the main unit, as taught by Willenegger, thus allowing a further metric to be used by the main unit.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(6,026,305) Salinger teaches locating mobile units engaged in a call.

(5,973,643) Hawkes teaches mobile emitter location finding.

(6,047,192) Maloney teaches location determination based on phase of received signal.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nick Corsaro whose telephone number is (703)306-5616 . The examiner can normally be reached on from 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter, can be reached on (703) 308-6732 . The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6306 or (703) 308-6296 .

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

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Nick Corsaro

A handwritten signature in black ink, appearing to read "Nick Corsaro", with a long horizontal flourish extending to the right.A handwritten signature in black ink, appearing to read "Daniel S. Hunter", with a long horizontal flourish extending to the right.

DANIEL S. HUNTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700